

## REMARKS

By this amendment, Claims 1 and 16 have been amended, Claims 32 and 34 have been cancelled, and no claims have been added. Hence, Claims 1-11, 16-26, 31, and 33 are pending in this application.

## SUMMARY OF THE REJECTIONS

Claims 1-3, 5-11, 16-18, 20-26, and 31-34 have been rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over U.S. Patent Number 5,606,693 issued to Nilsen et al. (“*Nilsen*”) in view of U.S. Patent Number 5,838,918 issued to Prager et al. (“*Prager*”).

Claims 4 and 19 have been rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over *Nilsen* in view of U.S. Patent Number 5,627,994 issued to Levy et al. (“*Levy*”).

The rejections are respectfully traversed.

## CLAIM 1 IS PATENTABLE OVER THE CITED ART

Even if the cited art were to be properly combined, Claim 1 recites a combination of elements that are not disclosed, taught, or suggested by *Nilsen* or *Prager*, either individually or in combination. Claim 1, as amended, recites the following combination of elements:

“A database appliance, comprising:  
a database server; and  
a special purpose operating system, generated by modifying a general purpose operating system, whose configuration is dictated based on a set of services required by the database server,  
**wherein modifying the general purpose operating system includes removing one or more features of the general purpose operating system that are not required to provide said set of services to the database server, and**  
wherein the special purpose operating system is the only operating system installed on and executed by the database appliance” (emphasis added).

It is respectfully submitted that Claim 1 includes one or more limitations that are not taught or suggested by *Nilsen* or *Prager*, either individually or in combination.

Difference between a general purpose operating system and a special purpose operating system

General purpose operating systems attempt to provide services to address all possible needs of all possible types of software. For example, general purpose operating systems often employ complex I/O techniques for handling I/O intensive applications, complex techniques to support computation intensive applications, and complex communication techniques to support communication intensive applications, since the general purpose operating system may be used in a variety of different contexts. Many of the services provided by the general purpose operating system may not be required in a specific context in which the operating system may actually be used. For example, paragraphs 6-8 of the Applicants' disclosure describe how the services provided by a general purpose operating system may vastly outnumber the actual services required by the operating system, thereby resulting in an unnecessarily complex and difficult to manage system. Also, as a general purpose operating system is configured to accommodate a variety of contexts, the general purpose operating system is not optimized for use in any particular context.

In sharp contrast, the configuration of a special purpose operating system is dictated based on a set of services that are actually required. For example, in Claim 1, the special purpose operating system has a configuration that "is dictated based on a set of services required by the database server." Advantageously, the elements of Claim 1 define a database appliance that reduces the total cost of maintaining the database appliance, as compared to a

computer system that runs a database server on top of a general purpose operating system. Further, the special purpose operating system of Claim 1 is optimized for the intended use of the database appliance, namely, providing the set of services required by the database server executing on the database appliance.

A special purpose operating system is a full-fledged operating system, not merely a subset of a general purpose operating system that is providing a set of services to a particular application. This distinction is expressed in Claim 1 by the inclusion of “wherein the special purpose operating system is the only operating system installed on and executed by the database appliance.”

Further, Claim 1 has been amended herein to clarify how the special purpose operating system is created, namely by “removing one or more features of the general purpose operating system that are not required to provide said set of services to the database server.”

### *Nilsen*

*Nilsen* teaches an approach for logging large volumes of data to a plurality of database servers. Workstations log data to one of a plurality of database servers. Central configuration controllers may be used to configure a workstation to cause the workstation to log data to a different database server (Abstract; Col. 2, lines 15-35).

The Office Action does not clearly identify what portion of *Nilsen* is analogous to a database appliance as claimed. As featured in Claim 1, a database appliance includes (a) a database server, and (b) a special purpose operating system whose configuration is dictated based on a set of services required by a database server. As the only database server in the approach of *Nilsen* are database servers 120 –124, the Applicants assume that the Office

Action must be asserting that one of database servers 120-124 of *Nilsen* is analogous to the claimed database appliance of Claim 1.

*Nilsen* lacks any disclosure, teaching, or suggestion of a special purpose operating system as claimed. The portion of *Nilsen* cited to show a special purpose operating system (Abstract, Col. 2, lines 15-35) does not even discuss a general purpose operation system, let alone discuss a special purpose operating system.

The disclosure of *Nilsen* is silent with respect to how any operating system plays any part in the approach of *Nilsen*. Thus, *Nilsen* fails to teach anything analogous to “a special purpose operating system, generated by modifying a general purpose operating system, whose configuration is dictated based on a set of services required by the database server” on any of database servers 120-124.

Thus, for the above reasons, *Nilsen* cannot possible disclose, teach, or suggest the elements of “a special purpose operating system, generated by modifying a general purpose operating system, whose configuration is dictated based on a set of services required by the database server, wherein the special purpose operating system is the only operating system installed on and executed by the database appliance” as featured in Claim 1.

Further, since *Nilsen* lacks any suggestion of a special purpose operating system, no portion of *Nilsen* discloses, teaches, or suggests the element of “wherein modifying the general purpose operating system includes removing one or more features of the general purpose operating system that are not required to provide said set of services to the database server” also featured in Claim 1.

*Prager*

The Office Action relies on *Prager* to show a special purpose operating system as claimed. *Prager* teaches an approach for configuration management. In *Prager*, a software package, called “rdist,” is distributed as part of the UNIX operating system. Rdist implements a simple file distribution mechanism, e.g., rdist can compare the dates and times of files to determine what files need to be updated on a central repository (Col. 3, lines 55-65).

Claim 1 recites “a special purpose operating system, generated by modifying a general purpose operating system, whose configuration is dictated based on a set of services required by the database server, wherein modifying the general purpose operating system includes removing one or more features of the general purpose operating system that are not required to provide said set of services to the database server.” At best, *Prager* discusses distributing rdist as part of the UNIX operating system, but this is not analogous to removing a feature from a general purpose operating system, let alone, removing a feature that is not required to provide a set of services to a database server. Further, the cited portion of *Prager* does not teach or suggest the use a database server; thus, the cited portion of *Prager* cannot teach or suggest a special purpose operating system whose configuration is dictated based on a set of services required by the database server. As a result, this element is not disclosed, taught, or suggested by *Prager*.

Consequently, even if *Nilsen* and *Prager* were to be properly combined, the resulting combination would still fail to disclose, teach, or suggest several elements of Claim 1. As a result, Claim 1 is patentable over the cited art and is in condition for allowance.

**CLAIMS 2-11, 16-26, 31, AND 33 ARE PATENTABLE OVER THE CITED ART**

Independent Claim 16 recites features similar to those recited in Claim 1, except that Claim 16 is recited in method format. Consequently, Claim 16 is patentable over the cited art and is in condition for allowance for at least the reasons given above with respect to Claim 1.

Claims 2-11, 17-26, 31, and 33 are dependent claims, each of which depends (directly or indirectly) on one of the claims discussed above. Each of Claims 2-11, 17-26, 31, and 33 is therefore allowable for the reasons given above for the claim on which it depends.

In addition, each of Claims 2-11, 17-26, 31, and 33 introduces one or more additional limitations that independently render it patentable. For example, Claims 2 and 17 each feature the element of “wherein the database server was generated from another database server by modifying the code of the other database server to optimize the code for execution on said database appliance.” The portion of *Nilsen* cited to show this element (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.

The above-cited portion of *Nilsen* lacks any discussion of generating a database server; consequently, the above-cited portion of *Nilsen* cannot possibly show the features of Claims 2 and 17 asserted by the Office Action.

As another example, Claims 3 and 18 each feature the element of “wherein the hardware for said database appliance is selected and configured to optimize performance of one or more services to be performed by the database server.” The portion of *Nilsen* cited to show this element (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also

maintains a record of information about the type of request, and the start and end times for that logging request.

The above-cited portion of *Nilsen* lacks any discussion of selecting or configuring the hardware of a database appliance; consequently, the above-cited portion of *Nilsen* cannot possibly show the features of Claims 3 and 18 asserted by the Office Action.

As another example, Claims 7 and 22 each feature the additional elements of “a self-configuration module that is capable of performing the steps of: detecting an environment in which the database appliance is being used; and configuring the database appliance based upon the detected environment.” The portion of *Nilsen* cited to show this element (Col. 3, lines 60-65) merely states, *in toto*:

The controller assigns database servers based on the type of request, the load on each of the servers, and priority information. The controller 132 also maintains a record of information about the type of request, and the start and end times for that logging request.

The above-cited portion of *Nilsen* lacks any discussion of any functional component that is capable of detecting its environment or configuring itself based on the detected environment; consequently, the above-cited portion of *Nilsen* cannot possibly show the features of Claims 7 and 22 asserted by the Office Action.

## CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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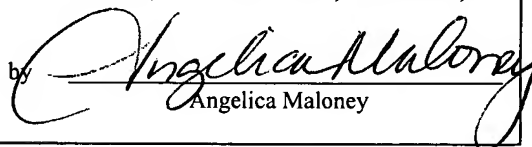
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on October 11, 2005

by



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